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| 10/535,205      | 05/17/2005  | Joon-Young Yoon      | 3254-0128PUS1       | 2008             |

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| EXAMINER |
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STEELE, JENNIFER A

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| ART UNIT | PAPER NUMBER |
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1794

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|-------------------|---------------|
| NOTIFICATION DATE | DELIVERY MODE |
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02/22/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/535,205 | <b>Applicant(s)</b><br>YOON ET AL. |  |
|                              | <b>Examiner</b><br>JENNIFER STEELE   | <b>Art Unit</b><br>1794            |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2-4 are drawn to the nonelected invention and are required to be noted as withdrawn.

### ***Specification***

2. The substitute specification submitted on 8/20/2007 will be entered as it contains no new subject matter.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 describes a maximum thermal stress temperature of 120-230°C and refers to the temperature as the temperature area. It is unclear what the term area is and how it relates to the temperature.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1-9 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Koyanagi et al (US 6,673,443). Koyanagi teaches a side by side polyester-based conjugate fiber which is produced of two types of polyesters. Koyanagi teaches two polyesters with differing intrinsic viscosities and the difference in intrinsic viscosities differs in order to impart the desired amount of crimp (col. 5 and 6, lines 65-68 and 1-15). Koyanagi differs from the current application and teaches the property of thermal shrinkage stress and does not teach boiling water shrinkage. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112- 2112.02

However, boiling water shrinkage is a type of thermal shrinkage and Koyanagi teaches that intrinsic viscosity can be optimized to achieve thermal (or boiling water shrinkage). Therefore, Koyanagi is teaching a result effective variable. Therefore one of ordinary skill in the art would have been able to select the desired crimp, ( and degree of thermal or boiling water shrinkage), in the finished fibers by controlling the intrinsic viscosity of the two polymers in the side by side fibers.

As to claim 5, Koyanagi teaches the conjugate fiber can be produced into yarn for woven and knitted applications (col. 27, lines 30-33).

As to claim 6, Koyanagi teaches that the two polymers have differing intrinsic viscosity but differs from the current application and does not teach differing molecular

weights. Intrinsic viscosity is considered a measure of molecular weight. Koyanagi teaches that the difference in intrinsic viscosity between the two side by side polymers affects the crimp. Therefore Koyanagi is teaching that varying the molecular weight of the side by side polymers can achieve a desired level of crimp and thermal shrinkage. It would have been obvious to produce a conjugate filament with differing molecular weights motivated to produce a fiber with the desired thermal shrinkage. Examiner can not equate the intrinsic viscosity property of Koyana to the molecular weight property of the current application. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. Also, as set forth above, since Koyanagi teaches the crimp and thermal shrinkage is related to the intrinsic viscosity, ( and therefore the molecular weight), it would have been obvious to one of ordinary skill in the art to have selected the difference in intrinsic viscosity, (and molecular weight), in order to produce a fiber having the optimal crimp and therefore the optimal thermal shrinkage ratio between the two fiber components.

As to claim 7, Koyanagi teaches thermal shrinkage stress as a function of temperature as shown in Fig. 2. Koyanagi teaches the extreme temperature of a thermal shrinkage stress of the conjugate fiber is preferably from 140-190°C which is in the range of the current application. Koyanagi differs and does not teach a temperature

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area exhibiting 95% of the maximum thermal stress. However, 95% of the range of Koyanagi of 140-190°C is 133-180°C and still in the range of claim 7.

As to claim 8, Koyanagi teaches the thermal shrinkage stress is between 0.1 and 0.4 as shown in Figure 2.

As to claim 9, Koyanagi teaches polyesters which are equated with polyethylene terephthalate.

### ***Response to Arguments***

5. Applicant's arguments with respect to claim 1 and 5 and new claims 6-9 have been considered but are moot in view of the new ground(s) of rejection. The previous 35 USC 102(b)/103(a) rejection with respect to claims 1 and 5 and Shimomai is withdrawn and new 35 USC 103(a) rejection with respect to Koyanagi is presented in this Office Action.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./  
Examiner, Art Unit 1794

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794

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